MP480

2013 On-Farm Cotton Variety Performance Summary

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

University of Arkansas, United States Department of Agriculture, and County Governments Cooperating

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2013 Cotton On-Farm Variety Performance

Conducted by Blake McClelland, Program Associate - Cotton Research Verification Coordinator
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County	County Agent	Cooperator
Ashley	Kevin Norton	Bruce Bond
Clay	Andy Vangilder	Bret Palmer
Craighead	Branon Thiesse	John Johnson
Desha	Wes Kirkpatrick	Danny Wilson
Drew	Chuck Capps	Phillip Morris
Lee	Stan Baker	Justin Billingsley Cotton Branch Experiment Station
Lonoke	Jeff Welch	Rick Bransford
Mississippi	Ray Benson Jason Osborn	Heath Donner Greg Lyerly
Poinsett	Mike Hamilton	Marty White
St. Francis	Mitch Crow	Joe Whittenton

The University of Arkansas Cotton Extension Program would like to thank all the cooperators who take time out of their busy schedules to plant and harvest these trials on their farms. Your cooperation is greatly appreciated. We would also like to extend our appreciation to the seed companies for graciously providing seed for these trials. Without your support this program would not be possible.

2013 Cotton On-Farm County Variety Trials

Performance Summary
University of Arkansas Division of Agriculture
Cotton Extension Program

Introduction

Variety selection can be the most difficult, yet most important decision a cotton producer will make year in and year out. Because of new technologies becoming available, producers have experienced rapid turnover in the number of varieties that are available to plant each year with limited performance data. In order to be prepared and to provide as much information as possible on cotton varieties, a standardized on-farm cotton variety testing program was developed in cotton-producing counties.

Each year the University of Arkansas Division of Agriculture conducts several replicated on-farm demonstration trials to evaluate performance of a number of new cotton varieties. These trials are not meant to replace University OVTs (Official Variety Trials); however, they provide another source or supplement to the OVT data on which to base cotton variety selection.

These standardized on-farm trials are helpful because they evaluate similar varieties over a wide range of soil types and management practices throughout the state of Arkansas. Additionally, on-farm trials are managed by cotton producers and should reflect the performance of varieties in a commercial production system.

Cotton variety selection is a critical decision that must be made every season, and producers are encouraged to consult as many data sources as possible before selecting varieties to plant. Producers are encouraged to spread risk by selecting at least four varieties with proven performance from multiple sources. New release varieties should be planted on only five percent or less of total acreage.

Evaluation Methods and Locations

County agents with the University of Arkansas Division of Agriculture selected a producer within their respective counties to conduct the standardized variety trials. The 2013 locations, shown in color on the map (Figure 1), were (from north to south) Clay, Craighead, Mississippi, Poinsett, Lonoke, St. Francis, Lee, Desha, Drew and Ashley.

In 2013, a total of ten trials were planted and harvested. Each location was managed by the producers or cooperators, and all varieties were planted according to the equipment setup provided by the cooperator. At each location, the varieties were planted in four- to twelve-row configurations, depending on planter and picker setup, a minimum of 600 feet long, with a minimum of three replications.

Ten varieties were entered into the trial in 2013 and can be found in Table 1. Trials were harvested by the producers and weighed by the county agents, utilizing boll buggies with load cells. Large grab samples (10 pounds) were taken from each replication and ginned through a micro-gin, courtesy of University of Tennessee Extension Service in Jackson, Tenn., which included drying, pre-cleaning and lint cleaning, allowing for accurate lint turnout. Fiber samples were then sent to the USDA Cotton Classing Office located at Memphis, Tenn., and physical fiber quality properties were measured.

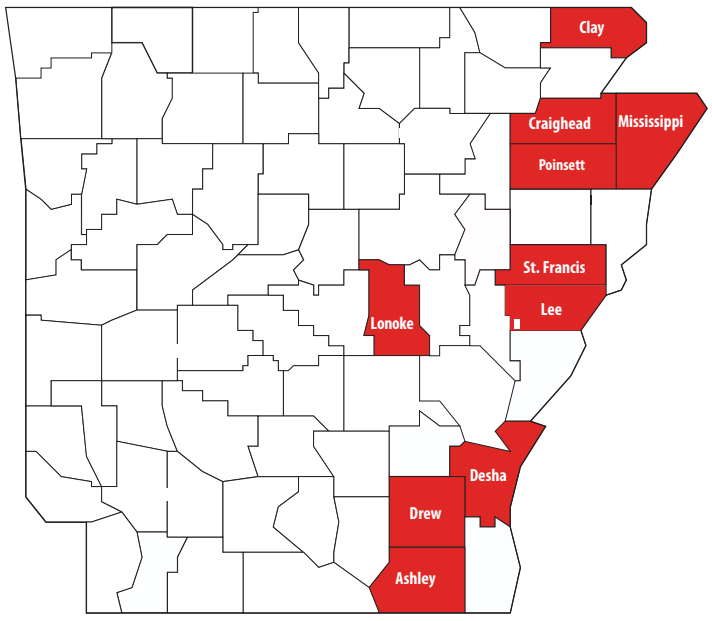


Figure 1. Arkansas Standardized County Variety Trials conducted in 2013.

Table 1. Varieties selected for 2013 standardized cotton performance trials.

2013 Cotton Trial Varieties		
Slot #	**Slot Criteria**	**Entry**
1	Top-ranked Flex variety in 2012 according to USDA survey	DPL 0912 B2RF
2	NexGen Brand	NG 1511 B2RF
3	Deltapine Brand	DPL 1044 B2RF
4	Deltapine Brand	DPL 1311 B2RF
5	Dyna-Gro Brand	DG 2570 B2RF
6	Dyna-Gro Brand	DG 2285 B2RF
7	Fibermax Brand	FM 1944 GLB2
8	Phytogen Brand	PHY 339 WRF
9	Phytogen Brand	PHY 499 WRF
10	Stoneville Brand	ST 4946 GLB2

Entries

In 2013, six total BollGard II Roundup Ready Flex (B2RF) varieties, two Glytol Liberty Link (GLB2) and two WideStrike Roundup Ready Flex (WRF) varieties were selected based on performance in previous trials and compared to the most popular BollGard II Roundup Ready Flex variety planted in Arkansas in 2012 (DPL 0912 B2RF). The varieties chosen are listed in Table 1. Attempts were made to compare the standardized core group with the varieties that were prevalent on the producer's farm so local comparisons could be evaluated.

Data Tables and Analysis

Data reported in each table include lint yield, lint percent and physical fiber properties of micronaire (Mic), strength, staple length (thirty-seconds of an inch) and uniformity. A total of sixteen counties conducted on-farm variety trials. Where trials were replicated, statistical analysis of the data was conducted, and the least significant difference (LSD) along with the coefficient of variance (CV) was reported. The LSD represents the smallest value that can be used to separate two means; differences less than the LSD are likely due to chance and field variability. The CV represents the amount of variance within a test. A lower CV indicates less variance and therefore more confidence in the data. In the following tables, varieties that could not be separated statistically were labeled with an asterisk.

Maturity

It is important to consider the relative maturity of varieties when making decisions on variety selection. The period of time it takes for a variety to mature is of particular importance because the length of the growing season will vary from Northeast to Southeast Arkansas.

Early-maturing varieties tend to bloom earlier, may have shorter bloom periods and are generally shorter and more determinant. These characteristics are crucial in Northeast Arkansas, where a shorter growing season is imminent. In contrast, fuller-season varieties may bloom later, have extended bloom periods and are more indeterminate, which means they will most likely grow taller. Fuller-season varieties are planted mostly in the southern part of Arkansas where more opportunity for a longer growing season exists.

The benefits of fuller-season varieties include the ability to handle stress in bad years. Because of the indeterminate nature, a full-season variety has the ability to compensate for early-season stress, fruit loss or insect damage through an extended bloom period and longer growing season. However, a fuller-season variety also may be more expensive to protect from late-season insect pests such as plant bugs, worm pests and stink bugs.

Selecting varieties with a mixture of maturity may be beneficial at harvest to prevent a situation where all fields are ready to pick at the same time. Spreading out maturity across the farm will also help to avoid extensive losses from hurricanes or tropical storms. Table 2 shows the average date of cutout of the core varieties in the on-farm trials. These values are not absolute and are subject to change slightly in different environments, management systems or plant populations. The data reported below represent the average days from planting until the majority of the cotton plants in the trial reach cutout or five nodes above the first position white flower (NAWF=5) by region.

Table 2. Average days to cutout (NAWF=5) by variety and by region.

Variety	From I-40 North	From I-40 South
Deltapine 0912 B2RF	89	88
Dyna-Gro 2570 B2RF	91	90
Phytogen 499 WRF	94	92
Deltapine 1311 B2RF	91	91
NexGen 1511 B2RF	92	89
Dyna-Gro 2285 B2RF	89	88
Deltapine 1044 B2RF	93	90
Phytogen 339 WRF	92	93
Stoneville 4946 GLB2	88	90
FiberMax 1944 GLB2	91	89

On-Farm Performance – Two-Year Average

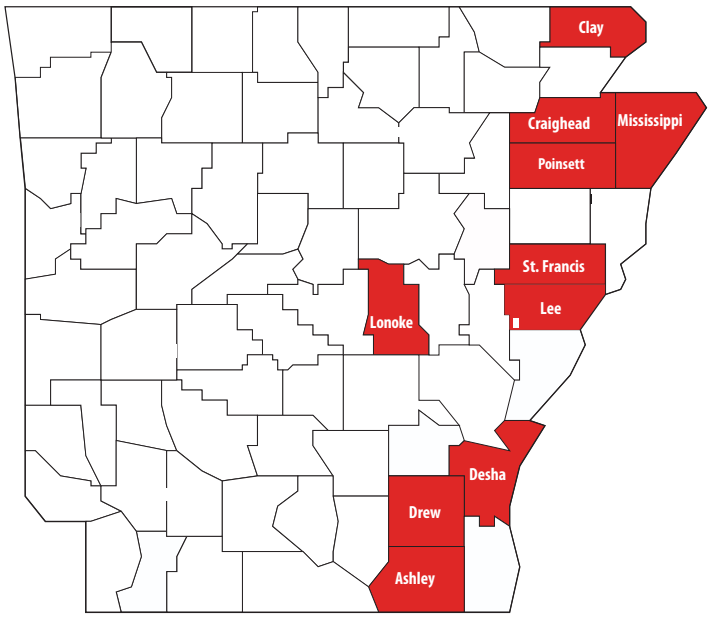
Two-year averages provide a better indication of how a variety will perform under multiple environments and growing conditions. The following two-year averages represent only those varieties that were planted multiple years across a total of 26 counties in 2012 and 2013. Varieties that perform well in both years will most likely prove to be consistent performers under most environmental conditions. The two-year average table below represents variety performance or yield by soil type and region. All varieties are listed based on performance over all locations and soil types. The ranking (in parentheses) represents the performance in a particular region or soil type.

Table 3. Two-year average by soil type and by region (2012 and 2013).

By Soil Type	Sandy Loam		Silt Loam		Overall Average	
Variety	**Lint Yield**	**Lint Percent**	**Lint Yield**	**Lint Percent**	**Lint Yield**	**Lint Percent**
NexGen 1511 B2RF	1352.87 (2)	38.83	1301.52 (1)	38.20	1315.53	38.37
Deltapine 0912 B2RF	1362.76 (1)	36.13	1285.93 (2)	36.24	1306.88	36.21
Phytogen 499 WRF	1328.94 (4)	38.68	1285.93 (3)	38.84	1297.66	38.80
Dyna-Gro 2570 B2RF	1331.35 (3)	37.23	1262.80 (4)	37.35	1281.5	37.32
FiberMax 1944 GLB2	1282.31 (5)	35.37	1206.83 (5)	35.96	1227.41	35.85
LSD	**191.56**	**1.24**	**130.13**	**0.56**	**107.15**	**0.52**
CV	**19.74**	**4.54**	**23.26**	**3.42**	**22.19**	**3.73**
Grand Mean	**1331.65**	**37.289**	**1268.60**	**37.32**	**1285.8**	**37.31**

By Location	North of I-40		South of I-40		Overall Average	
Variety	**Lint Yield**	**Lint Percent**	**Lint Yield**	**Lint Percent**	**Lint Yield**	**Lint Percent**
NexGen 1511 B2RF	1322.84 (1)	38.71	1307.36 (1)	38.00	1315.53	38.37
Deltapine 0912 B2RF	1320.26 (2)	36.33	1291.96 (3)	36.07	1306.88	36.21
Phytogen 499 WRF	1297.26 (3)	38.82	1298.11 (2)	38.78	1297.66	38.80
Dyna-Gro 2570 B2RF	1272.53 (4)	37.45	1291.49 (4)	37.19	1281.50	37.32
FiberMax 1944 GLB2	1231.30 (5)	36.06	1223. 07 (5)	35.63	1227.41	35.85
LSD	**109.36**	**0.61**	**195.68**	**0.88**	**107.15**	**0.52**
CV	**16.34**	**3.13**	**27.79**	**4.32**	**22.19**	**3.73**
Grand Mean	**1288.84**	**37.47**	**1282.4**	**37.13**	**1285.80**	**37.31**

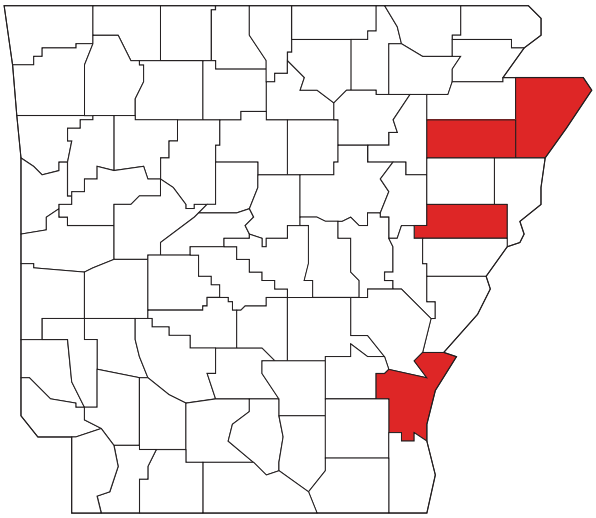
2013 Core Varieties: All Locations



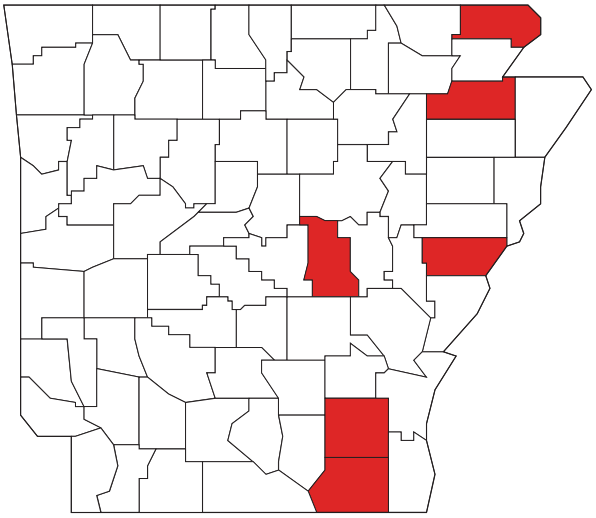
Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity
Stoneville 4946 GLB2	1515.99	38.13	4.55	36.9	32.29	82.83
Deltapine 0912 B2RF*	1487.19	37.31	4.78	35.9	30.33	82.12
Dyna-Gro 2285 B2RF*	1478.91	39.26	4.28	37.3	30.15	82.41
NexGen 1511 B2RF*	1464.37	38.24	4.54	36.4	31.79	82.81
Dyna-Gro 2570 B2RF*	1440.85	38.42	4.62	36.2	30.17	82.74
Deltapine 1311 B2RF*	1418.31	39.53	4.21	36.4	28.61	81.49
Phytogen 339 WRF*	1386.53	37.62	4.25	37.7	31.85	82.31
Phytogen 499 WRF*	1369.82	39.45	4.51	36.6	32.75	83.19
FiberMax 1944 GLB2*	1360.23	36.28	4.43	37.8	32.75	83.19
Deltapine 1044 B2RF	1315.01	36.33	4.46	36.6	29.86	82.04
LSD	**189.25**	**1.03**	**0.29**	**0.80**	**1.26**	**0.90**
CV	**22.36**	**4.57**	**7.35**	**2.45**	**4.58**	**1.23**
Grand Mean	**1423.72**	**38.06**	**4.46**	**36.78**	**30.99**	**82.31**

*Not significantly different from the highest yielding variety in the trial.

2013 Core Varieties by Soil Type



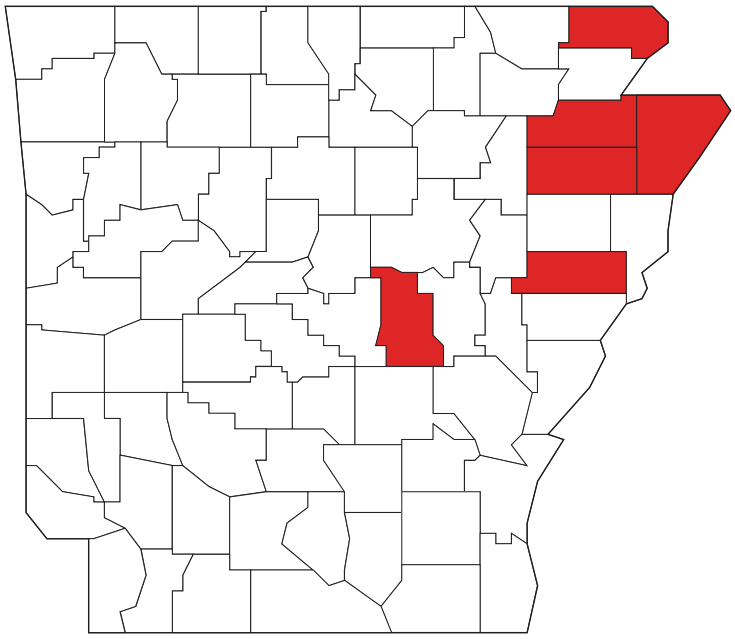
Sandy Loam



Silt Loam

Variety	Silt Loam	Sandy Loam	Overall Mean
	lb/ac (rank)	lb/ac (rank)	lb/ac
Stoneville 4946 GLB2	1471.3 (1)	1611.7 (1)	1515.99
Deltapine 0912 B2RF	1462.3 (2)	1540.6 (3)	1487.19
Dyna-Gro 2285 B2RF	1436.1 (4)	1570.7 (2)	1478.91
NexGen 1511 B2RF	1451.6 (3)	1491.7 (4)	1464.37
Dyna-Gro 2570 B2RF	1429.5 (5)	1465.3 (5)	1440.85
Deltapine 1311 B2RF	1405.9 (6)	1444.9 (6)	1418.31
Phytogen 339 WRF	1365.0 (7)	1432.7 (7)	1386.53
Phytogen 499 WRF	1361.4 (8)	1388.0 (8)	1369.82
FiberMax 1944 GLB2	1348.3 (9)	1385.8 (9)	1360.23
Deltapine 1044 B2RF	1324.6 (10)	1294.5 (10)	1315.01
LSD	**243.02**	**318.26**	**189.25**
CV	**23.94**	**20.34**	**22.36**
Grand Mean	**1405.59**	**1462.58**	**1423.72**
Number of Locations	**6**	**4**	**10**

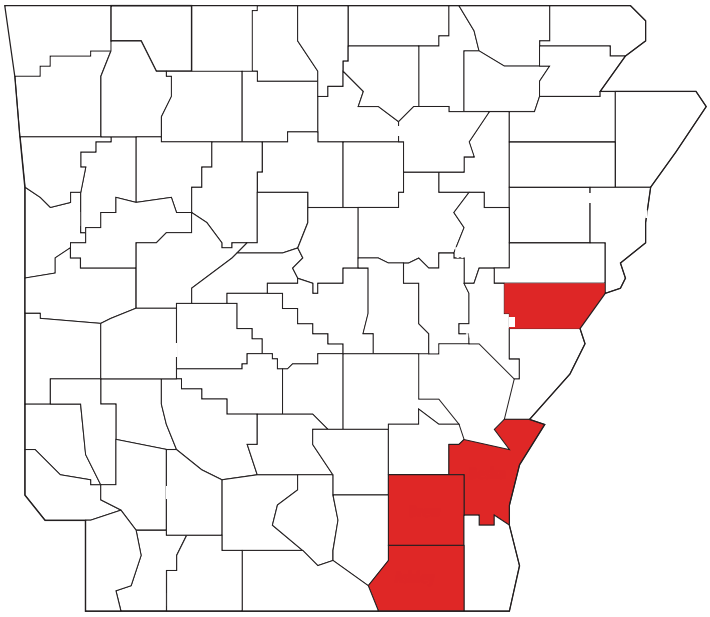
2013 Core Varieties: I-40 North



Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity
Deltapine 0912 B2RF	1448.51	37.00	4.62	35.83	29.83	81.83
Stoneville 4946 GLB2*	1436.00	37.16	4.35	37.17	32.45	82.57
NexGen 1511 B2RF	1391.38	37.88	4.35	36.83	31.77	82.47
Dyna-Gro 2570 B2RF*	1383.87	38.11	4.38	36.17	29.68	82.08
Dyna-Gro 2285 B2RF*	1366.52	38.09	4.13	37.17	30.58	82.13
Phytogen 339 WRF*	1332.96	37.60	4.08	37.17	31.22	81.73
FiberMax 1944 GLB2*	1311.74	36.23	4.27	37.67	31.25	80.93
Phytogen 499 WRF*	1308.21	39.23	4.33	36.67	32.41	83.03
Deltapine 1311 B2RF*	1291.54	38.12	4.05	36.17	28.18	81.20
Deltapine 1044 B2RF	1207.11	35.35	4.25	37.00	30.23	82.20
LSD	**173.6**	**0.95**	**0.26**	**0.99**	**1.45**	**1.24**
CV	**15.92**	**3.12**	**5.21**	**2.32**	**4.05**	**1.30**
Grand Mean	**1347.79**	**37.48**	**4.28**	**36.78**	**30.76**	**82.02**

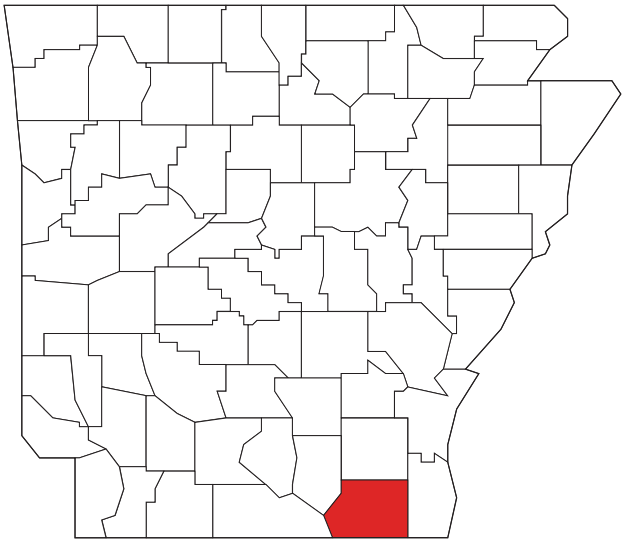
*Not significantly different from the highest yielding variety in the trial.

2012 Core Varieties: I-40 South



Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity
Dyna-Gro 2285 B2RF	1613.8	40.66	4.50	37.50	29.50	82.83
Stoneville 4946 GLB2	1612.0	39.29	4.85	36.50	32.05	83.23
Deltapine 1311 B2RF	1570.4	41.23	4.45	36.75	29.25	81.93
NexGen 1511 B2RF	1552.0	38.67	4.83	35.75	31.83	83.33
Deltapine 0912 B2RF	1533.6	37.69	5.03	36.00	31.08	82.55
Dyna-Gro 2570 B2RF	1509.2	38.79	4.98	36.25	30.90	83.73
Phytogen 339 WRF	1450.8	37.64	4.50	38.50	32.80	83.18
Deltapine 1044 B2RF	1444.5	37.50	4.78	36.00	29.30	81.80
Phytogen 499 WRF	1443.8	39.72	4.78	36.50	33.25	83.43
FiberMax 1944 GLB2	1418.4	36.34	4.68	38.00	33.35	81.48
LSD	**356.29**	**1.67**	**0.39**	**1.30**	**2.21**	**1.04**
CV	**26.46**	**4.84**	**5.67**	**2.44**	**4.88**	**0.87**
Grand Mean	**1514.84**	**38.75**	**4.74**	**36.78**	**31.33**	**82.75**

Ashley County



Soil Series – Hebert Silt Loam
Irrigation – Furrow
Row Width – 38"
Planting Date – 5/9/13
Harvest Date – 10/28/13
Cooperator – Bruce Bond
County Agent – Kevin Norton
Total Amount of Growth Regulator – 64 oz.

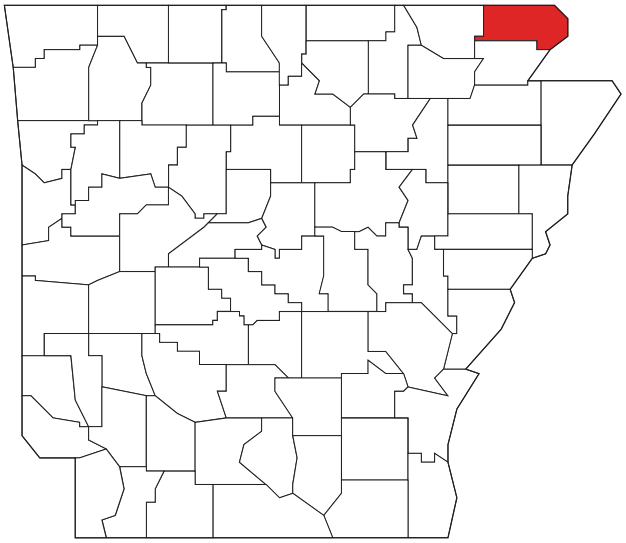
Fertility (lb/ac)	N	P	K	S
Preplant	0	100	0	20
In-season	100	0	0	0
Total Fertility	100	100	0	20

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Dyna-Gro 2285 B2RF	1855.45	38.75	4.4	38	28.9	82.1	1059.46
Stoneville 4946 GLB2*	1852.04	37.29	4.7	37	31.4	83.4	1022.33
NexGen 1511 B2RF*	1840.35	36.61	4.7	36	32.3	83.4	1001.15
Deltapine 1311 B2RF*	1825.51	39.64	4.3	36	28.7	81.0	985.78
Dyna-Gro 2570 B2RF*	1818.70	38.39	4.4	37	30.4	83.0	1030.29
Phytogen 339 WRF	1711.52	35.51	4.2	39	32.0	82.8	923.37
FiberMax 1944 GLB2	1702.86	35.38	4.4	39	32.4	81.0	967.22
Deltapine 0912 B2RF	1701.32	36.06	4.9	36	30.2	82.8	911.06
Deltapine 1044 B2RF	1524.93	35.62	4.4	37	28.2	83.0	837.19
Phytogen 499 WRF	1515.92	38.43	4.4	37	32.7	82.8	824.66
LSD	**80.64**	.	.	.	.	.	.
CV	**2.7**	.	.	.	.	.	.
Grand Mean	**1734.86**	**37.17**	**4.5**	**37.2**	**30.7**	**82.5**	**956.25**

*Not significantly different from the highest yielding variety in the trial.
Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Ashley County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
Dyna-Gro 2570 B2RF	1471.2	36.51
NexGen 1511 B2RF	1427.8	36.89
Deltapine 0912 B2RF	1373.4	35.11
FiberMax 1944 GLB2	1333.0	34.81
Phytogen 499 WRF	1313.5	37.30
Grand Mean	**1383.8**	**36.12**

Clay County



Soil Series – Fountain Silt Loam
Irrigation – Furrow
Row Width – 38"
Planting Date – 5/20/13
Harvest Date – 11/2/13
Cooperator – Bret Palmer
County Agent – Andy Vangilder
Total Amount of Growth Regulator – 64 oz.

Fertility (lb/ac)	N	P	K	S
Preplant	0	*	*	0
In-season	100	-	-	0
Total Fertility	100	-	-	0

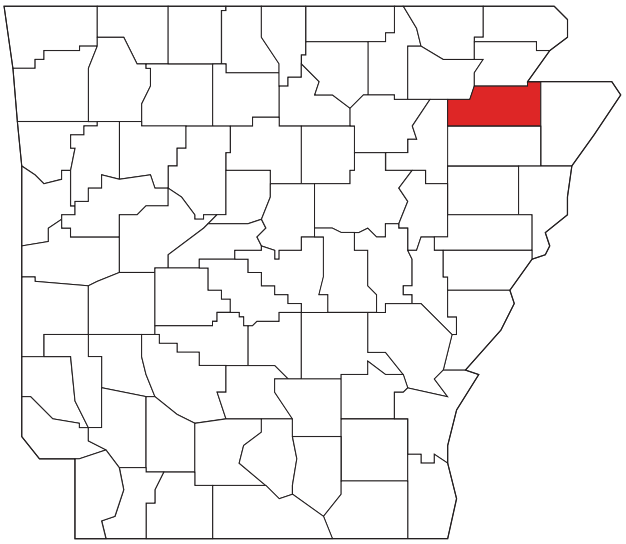
*Preplant P and K were applied variable rate.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Deltapine 0912 B2RF	1530.41	38.80	5.1	35	30.6	82.1	810.35
Stoneville 4946 GLB2*	1501.70	39.26	4.6	36	32.3	82.8	857.47
NexGen 1511 B2RF*	1442.82	38.91	4.3	37	31.8	82.5	818.80
Phytogen 339 WRF	1388.19	38.74	4.2	37	30.6	82.3	787.80
Dyna-Gro 2285 B2RF	1371.36	37.85	4.4	38	30.7	82.2	777.56
Deltapine 1311 B2RF	1370.71	39.90	4.2	36	28.4	82.0	781.99
Dyna-Gro 2570 B2RF	1364.74	38.32	4.2	37	28.9	83.3	773.13
FiberMax 1944 GLB2	1361.68	37.89	4.4	37	30.2	78.8	762.54
Phytogen 499 WRF	1331.61	40.32	4.6	36	33.8	83.1	755.02
Deltapine 1044 B2RF	1161.19	35.05	4.3	37	29.7	82.3	658.39
LSD	**118.34**	**.**	**.**	**.**	**.**	**.**	**.**
CV	**4.99**	**.**	**.**	**.**	**.**	**.**	**.**
Grand Mean	**1382.39**	**38.54**	**4.4**	**36.6**	**30.7**	**82.1**	**778.31**

*Not significantly different from the highest yielding variety in the trial.
Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.
Verticillium Wilt was present across all varieties of this location.

Clay County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
Deltapine 0912 B2RF	1499.3	38.2
Dyna-Gro 2570 B2RF	1366.8	38.0
NexGen 1511 B2RF	1365.7	39.8
Phytogen 499 WRF	1340.8	40.4
FiberMax 1944 GLB2	1313.5	37.4
Grand Mean	**1377.2**	**38.8**

Craighead County



Soil Series – Foley, Fountain, Amagon
Irrigation – Furrow
Row Width – 38"
Planting Date – 5/14/13
Harvest Date – 10/29/13
Cooperator – John Johnson
County Agent – Branon Thiesse
Total Amount of Growth Regulator – 56 oz.

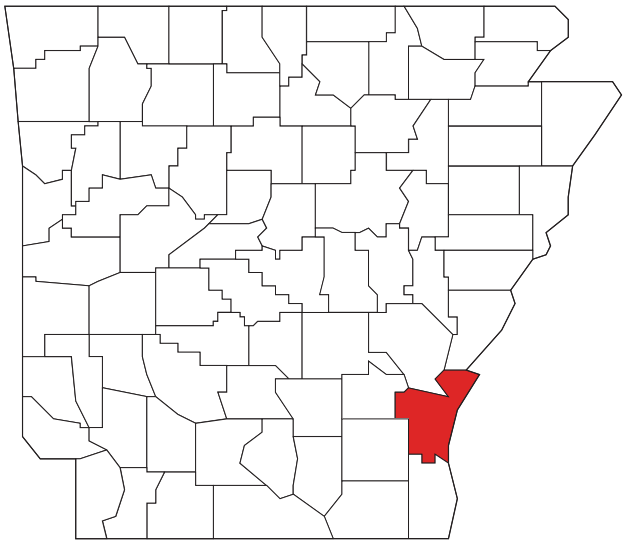
Fertility (lb/ac)	N	P	K	S
Preplant	0	40	80	24
In-season	94	0	0	0
Total Fertility	94	40	80	24

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
NexGen 1511 B2RF	1361.00	38.61	4.2	36	31.4	82.3	773.05
Deltapine 0912 B2RF*	1285.00	36.58	4.7	35	26.8	79.9	682.34
Stoneville 4946 GLB2*	1279.04	36.84	4.4	37	31.9	82.8	695.80
Dyna-Gro 2570 B2RF	1247.90	38.92	4.7	37	30.7	82.8	668.87
Phytogen 499 WRF	1210.60	39.82	4.4	36	32.4	82.7	667.65
Dyna-Gro 2285 B2RF	1199.95	37.76	4.2	37	29.2	81.5	660.57
Phytogen 339 WRF	1187.94	38.16	4.0	37	29.6	81.0	645.05
FiberMax 1944 GLB2	1154.10	35.09	4.1	37	28.2	79.2	648.60
Deltapine 1044 B2RF	1152.33	36.62	4.4	38	30.5	81.3	625.14
Deltapine 1311 B2RF	1004.51	36.11	3.9	36	26.7	79.9	533.90
LSD	**103.47**	.	.	.	.	.	.
CV	**4.99**	.	.	.	.	.	.
Grand Mean	**1208.24**	**37.45**	**4.3**	**36.6**	**29.7**	**81.3**	**660.10**

*Not significantly different from the highest yielding variety in the trial.
Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Craighead County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
NexGen 1511 B2RF	1318.6	38.4
Deltapine 0912 B2RF	1279.8	36.9
Phytogen 499 WRF	1240.9	39.4
Dyna-Gro 2570 B2RF	1227.4	38.5
FiberMax 1944 GLB2	1197.0	36.0
Grand Mean	**1252.7**	**37.8**

Desha County



Soil Series – Hebert Silt Loam
Irrigation – Furrow
Row Width – 38"
Planting Date – 5/24/13
Harvest Date – 11/4/13
Cooperator – Danny Wilson
County Agent – Wes Kirkpatrick
Total Amount of Growth Regulator – 50 oz.

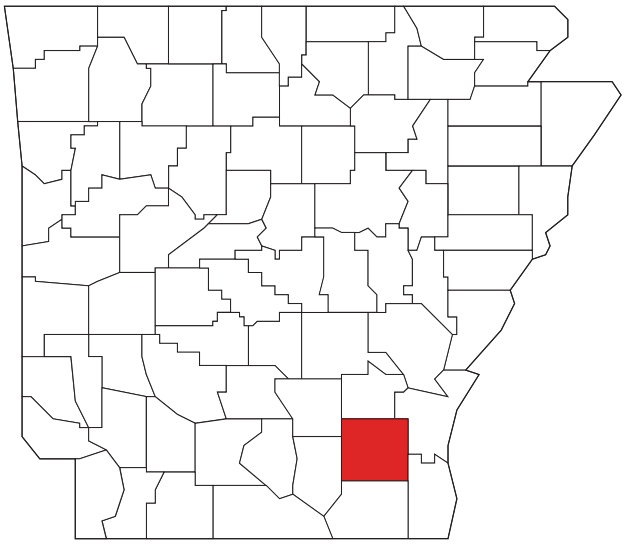
Fertility (lb/ac)	N	P	K	S
Preplant	65	40	75	10
In-season	45	0	0	0
Total Fertility	110	40	75	10

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Dyna-Gro 2285 B2RF	1985.93	44.54	4.3	38	28.9	83.7	1091.27
Stoneville 4946 GLB2*	1961.86	42.80	4.7	37	31.3	84.2	1084.91
NexGen 1511 B2RF*	1878.25	43.73	4.8	36	32.0	83.8	971.99
Deltapine 0912 B2RF*	1833.29	39.49	5.0	36	30.9	82.3	944.14
Deltapine 1311 B2RF	1723.52	41.96	4.2	38	29.4	82.6	890.20
Phytogen 339 WRF	1702.29	39.61	4.3	39	33.4	83.7	916.68
FiberMax 1944 GLB2	1639.39	36.36	4.5	39	34.7	82.3	892.65
Phytogen 499 WRF	1610.17	42.63	4.7	37	35.1	83.4	866.27
Dyna-Gro 2570 B2RF	1602.90	39.37	5.1	37	31.2	84.0	831.10
Deltapine 1044 B2RF	1586.20	38.03	4.8	36	29.8	80.6	858.13
LSD	**218.42**	.	.	.	.	.	.
CV	**5.51**	.	.	.	.	.	.
Grand Mean	**1752.38**	**40.85**	**4.6**	**37.3**	**31.7**	**83.1**	**934.74**

*Not significantly different from the highest yielding variety in the trial.
Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Desha County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
NexGen 1511 B2RF	1618.5	41.1
Deltapine 0912 B2RF	1550.6	37.2
Phytogen 499 WRF	1484.7	39.3
FiberMax 1944 GLB2	1460.4	35.6
Dyna-Gro 2570 B2RF	1423.6	37.0
Grand Mean	**1507.6**	**38.0**

Drew County



Soil Series – Rilla Silt Loam
Irrigation – Furrow
Row Width – 38"
Planting Date – 5/13/13
Harvest Date – 10/24/13
Cooperator – Phillip Morris
County Agent – Steve Kelley
Total Amount of Growth Regulator – 24 oz.

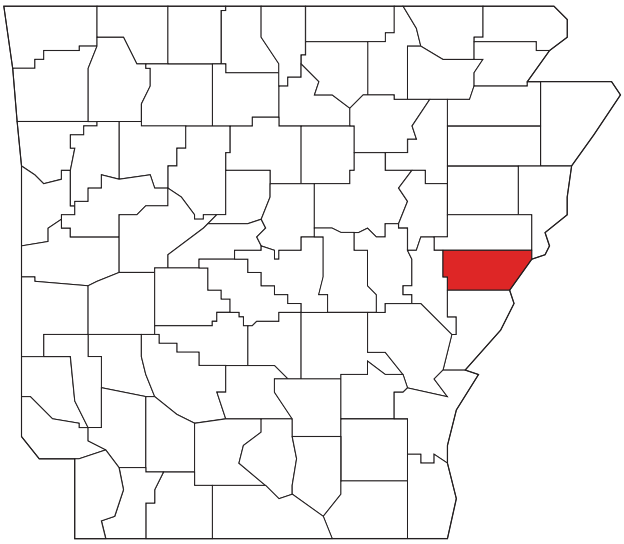
Fertility (lb/ac)	N	P	K	S
Preplant	0	0	70	0
In-season	112	0	0	0
Total Fertility	112	0	70	0

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Deltapine 1311 B2RF	2066.36	45.83	4.5	37	28.4	82.1	1104.47
Dyna-Gro 2570 B2RF	1835.30	38.25	5.2	35	28.9	83.8	921.32
NexGen 1511 B2RF	1800.80	38.88	4.7	37	32.7	83.7	968.83
Stoneville 4946 GLB2	1800.72	37.36	5.0	36	31.2	82.5	930.07
Deltapine 0912 B2RF	1772.88	40.13	4.9	37	31.0	83.1	965.33
Dyna-Gro 2285 B2RF	1770.10	38.75	4.5	37	30.5	82.9	960.28
Phytogen 499 WRF	1765.53	39.23	5.0	36	31.1	83.9	865.99
Deltapine 1044 B2RF	1756.13	38.53	5.0	35	27.5	80.8	891.24
FiberMax 1944 GLB2	1662.41	36.54	4.8	37	31.1	80.4	942.59
Phytogen 339 WRF	1642.55	38.74	4.5	39	30.4	83.1	882.05
LSD	**154.55**	**.**	**.**	**.**	**.**	**.**	**.**
CV	**3.82**	**.**	**.**	**.**	**.**	**.**	**.**
Grand Mean	**1787.28**	**39.22**	**4.81**	**36.6**	**30.28**	**82.63**	**943.22**

*Not significantly different from the highest yielding variety in the trial.
Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Drew County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
Dyna-Gro 2570 B2RF	1714.8	37.6
Deltapine 0912 B2RF	1714.6	38.0
NexGen 1511 B2RF	1667.6	38.2
Phytogen 499 WRF	1665.0	39.5
FiberMax 1944 GLB2	1631.0	36.2
Grand Mean	**1678.6**	**37.9**

Lee County



Irrigation – Furrow
Row Width – 38"
Planting Date – 5/20/13
Harvest Date – 11/14/13
Cooperator – Justin Billingsley
County Agent – Stan Baker
Total Amount of Growth Regulator – 48 oz.

Fertility (lb/ac)	N	P	K	S
Preplant	0	40	90	0
In-season	95	0	0	12
Total Fertility	95	40	90	12

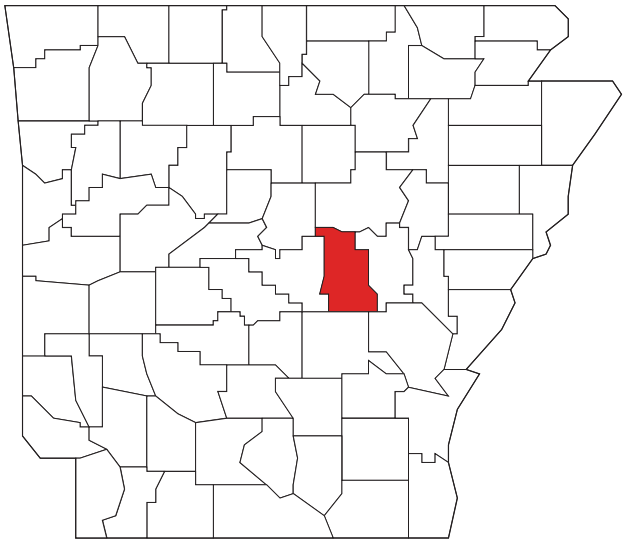
Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Deltapine 1044 B2RF	1061.81	38.33	4.9	36	31.7	82.8	584.53
Phytogen 499 WRF*	1046.12	39.40	5.0	36	34.1	83.6	564.90
Dyna-Gro 2285 B2RF*	1019.77	41.26	4.8	37	29.7	82.6	576.68
Stoneville 4946 GLB2*	1012.83	40.24	5.0	36	34.3	82.8	496.29
Deltapine 0912 B2RF*	1006.58	36.48	5.3	35	32.2	82.0	522.92
Dyna-Gro 2570 B2RF	919.90	39.16	5.2	36	33.1	84.1	497.67
Phytogen 339 WRF	894.61	37.73	5.0	37	35.4	83.1	483.98
Deltapine 1311 B2RF	882.67	39.27	4.8	36	30.5	82.0	498.71
NexGen 1511 B2RF	880.17	37.22	5.1	34	30.3	82.4	442.73
FiberMax 1944 GLB2	823.98	37.14	5.0	37	35.2	82.2	445.36
LSD	**106.9**	.	.	.	.	.	.
CV	**6.53**	.	.	.	.	.	.
Grand Mean	**954.84**	**38.62**	**5.0**	**36.0**	**32.7**	**82.8**	**511.38**

*Not significantly different than the highest yielding variety in the trial.
Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Lee County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
Phytogen 499 WRF	1090.5	39.0
Deltapine 0912 B2RF	1013.3	36.1
Dyna-Gro 2570 B2RF	938.0	38.4
NexGen 1511 B2RF	898.7	37.3
FiberMax 1944 GLB2	859.3	36.5
Grand Mean	**960.0**	**37.5**

Lonoke County

Soil Series – Caspiana Silt Loam
Irrigation – Furrow
Row Width – 38"
Planting Date – 5/8/13
Harvest Date – 10/30/13
Cooperator – Rick Bransford

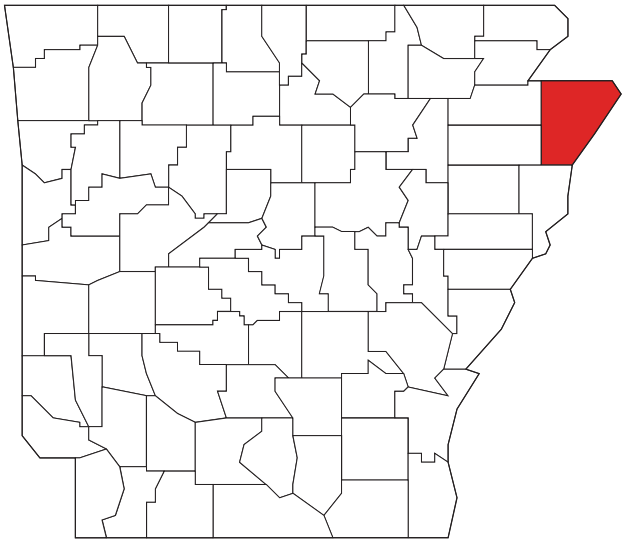


Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Deltapine 0912 B2RF	1818.50	36.77	4.8	37	29.6	83.2	937.4
FiberMax 1944 GLB2	1771.97	38.09	4.4	38	34.5	84.5	956.0
Dyna-Gro 2570 B2RF	1717.42	39.60	4.6	37	29.3	82.8	930.8
Deltapine 1311 B2RF	1706.82	38.67	4.1	37	30.0	82.1	917.4
Dyna-Gro 2285 B2RF	1661.61	39.10	4.5	37	32.0	84.0	895.6
Deltapine 1044 B2RF	1655.61	35.82	4.6	37	29.6	82.0	886.6
Phytogen 339 WRF	1642.59	38.71	4.3	37	31.7	81.9	892.7
NexGen 1511 B2RF	1599.68	36.47	4.1	38	31.3	81.7	862.2
Phytogen 499 WRF	1576.47	36.72	4.0	38	32.1	82.8	817.4
Stoneville 4946 GLB2	1531.63	35.34	4.1	39	32.9	81.0	825.5
LSD	.	.	.	.	.	.	.
CV	.	.	.	.	.	.	.
Grand Mean	**1668.23**	**37.53**	**4.4**	**37.5**	**31.3**	**82.6**	**892.18**

Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Lonoke County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
NexGen 1511 B2RF	1360.8	38.4
Phytogen 499 WRF	1298.4	37.9
Deltapine 0912 B2RF	1264.6	36.3
FiberMax 1944 GLB2	1261.4	36.7
Dyna-Gro 2570 B2RF	1202.7	37.3
Grand Mean	**1277.6**	**37.3**

Mississippi County



Soil Series – Routon Dundee Sandy Loam
Irrigation – Pivot
Row Width – 38"
Planting Date – 5/16/13
Harvest Date – 11/7/13
Cooperator – Heath Donner
County Agent – Ray Benson and Jason Osborn
Total Amount of Growth Regulator – 96 oz.

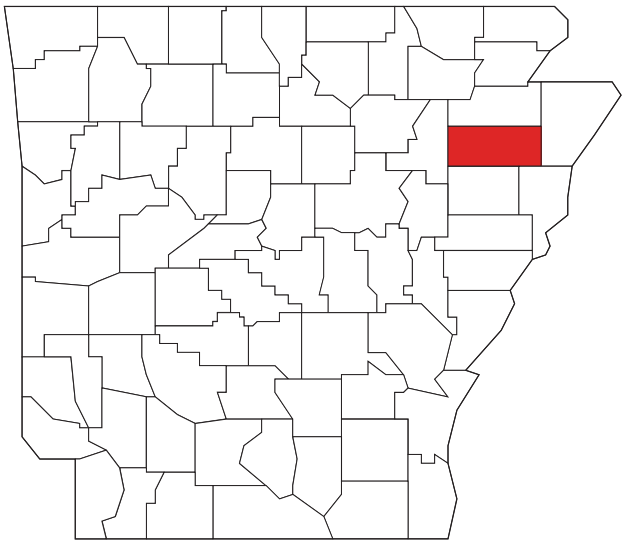
Fertility (lb/ac)	N	P	K	S
Preplant	0	0	50	0
In-season	70	0	0	0
Total Fertility	70	0	50	0

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Stoneville 4946 GLB2	1306.02	37.41	4.4	38	33.9	82.4	720.923
Dyna-Gro 2285 B2RF*	1253.84	38.16	4.1	37	30.4	81.0	690.866
Deltapine 0912 B2RF*	1200.51	36.99	4.5	37	30.9	83.1	680.089
Dyna-Gro 2570 B2RF*	1166.85	37.07	4.4	36	30.5	81.7	658.687
NexGen 1511 B2RF	1128.49	37.79	4.5	37	32.1	83.1	622.926
Deltapine 1311 B2RF	1072.32	37.89	4.0	36	27.9	81.2	605.325
Phytogen 339 WRF	1059.40	37.20	4.0	37	31.9	81.9	570.487
FiberMax 1944 GLB2	1049.57	35.25	4.3	39	32.6	82.2	596.681
Phytogen 499 WRF	1047.63	39.05	4.3	37	32.3	82.9	577.768
Deltapine 1044 B2RF	999.64	35.88	4.4	36	30.1	83.2	565.296
LSD	**142.15**	.	.	.	.	.	.
CV	**5.57**	.	.	.	.	.	.
Grand Mean	**1128.43**	**37.27**	**4.29**	**37**	**31.26**	**82.27**	**628.90**

*Not significantly different from the highest yielding variety in the trial.
Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Mississippi County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
Phytogen 499 WRF	1221.4	38.7
Deltapine 0912 B2RF	1202.5	36.3
NexGen 1511 B2RF	1182.2	38.7
Dyna-Gro 2570 B2RF	1131.7	36.5
FiberMax 1944 GLB2	1059.1	35.8
Grand Mean	**1159.4**	**37.2**

Poinsett County



Soil Series – Dundee, Mahoon Silt Loam
Irrigation – Furrow
Row Width – 38"
Planting Date – 5/14/13
Harvest Date – 10/25/13
Cooperator – Marty White
County Agent – Craig Allen and Mike Hamilton
Total Amount of Growth Regulator – 60 oz.

Fertility (lb/ac)	N	P	K	S
Preplant	55	*	*	0
In-season	55	-	-	0
Total Fertility	110	-	-	0

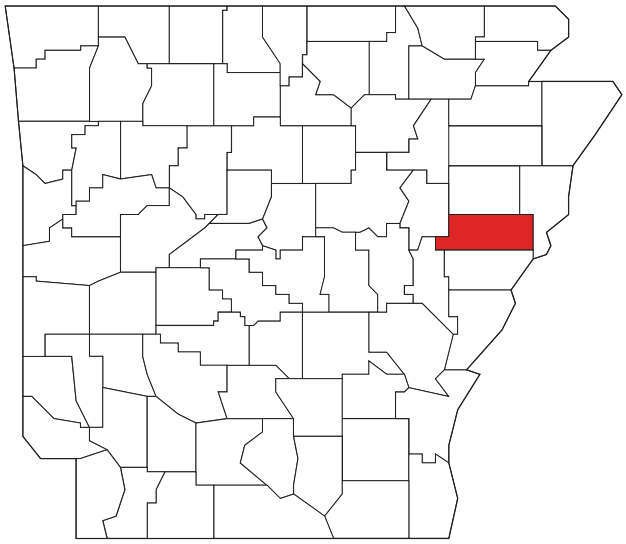
*Preplant P and K were applied variable rate.

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Deltapine 0912 B2RF	1739.09	35.47	4.2	36	30.0	81.0	956.50
Dyna-Gro 2570 B2RF*	1734.51	37.83	4.2	36	28.5	81.2	988.67
Stoneville 4946 GLB2*	1701.88	36.04	4.4	37	30.8	82.5	936.03
Deltapine 1311 B2RF*	1629.36	38.52	4.1	37	27.4	81.5	895.33
Phytogen 499 WRF*	1608.36	39.31	4.3	36	31.0	82.2	885.40
NexGen 1511 B2RF	1606.74	37.24	4.3	37	32.0	82.2	911.82
Dyna-Gro 2285 B2RF	1606.61	37.94	3.7	38	30.8	82.0	886.85
Phytogen 339 WRF	1594.36	36.20	3.9	38	31.3	81.1	907.99
FiberMax 1944 GLB2	1585.78	36.49	4.3	38	30.3	80.1	900.72
Deltapine 1044 B2RF	1344.70	33.47	4.0	37	28.5	82.5	744.96
LSD	**130.99**	.	.	.	.	.	.
CV	**3.59**	.	.	.	.	.	.
Grand Mean	**1615.14**	**36.85**	**4.14**	**37**	**30.06**	**81.63**	**901.43**

*Not significantly different from the highest yielding variety in the trial.
Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Poinsett County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
Deltapine 0912 B2RF	1610.4	35.6
Phytogen 499 WRF	1561.9	39.0
Dyna-Gro 2570 B2RF	1547.8	37.5
FiberMax 1944 GLB2	1501.5	36.2
NexGen 1511 B2RF	1496.8	38.1
Grand Mean	**1543.7**	**37.3**

St. Francis County



Soil Series – Loring Silt Loam
Irrigation – Pivot
Row Width – 38"
Planting Date – 5/25/13
Harvest Date – 11/8/13
Cooperator – Joe Whittenton
County Agent – Mitch Crow
Total Amount of Growth Regulator – 48 oz.

Fertility (lb/ac)	N	P	K	S
Preplant	0	22	60	19
In-season	125	0	60	0
Total Fertility	125	22	120	19

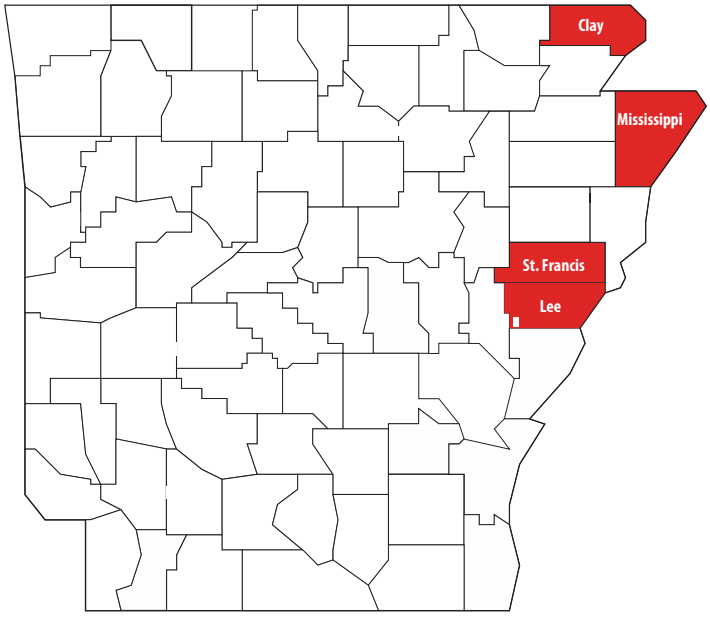
Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Stoneville 4946 GLB2	1342.35	35.39	4.2	36	32.9	83.9	763.13
Phytogen 339 WRF	1316.99	34.96	4.1	37	32.2	82.2	709.86
Dyna-Gro 2285 B2RF	1301.86	38.92	3.9	36	30.4	82.1	716.67
Deltapine 1311 B2RF	1264.20	37.89	4.0	35	28.7	80.5	702.90
Dyna-Gro 2570 B2RF	1248.42	36.20	4.2	34	30.2	80.7	671.65
Deltapine 0912 B2RF	1238.16	36.18	4.4	35	31.1	81.7	690.27
NexGen 1511 B2RF	1214.98	35.50	4.7	36	32.0	83.0	660.95
Deltapine 1044 B2RF	1200.47	34.64	3.8	37	33.0	81.9	646.45
Phytogen 499 WRF	1183.48	36.90	4.4	37	32.9	84.5	637.90
FiberMax 1944 GLB2	1150.94	34.23	4.1	37	31.7	80.8	654.31
LSD	.	.	.	.	.	.	.
CV	.	.	.	.	.	.	.
Grand Mean	**1246.18**	**36.08**	**4.2**	**36.0**	**31.5**	**82.1**	**685.41**

Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

St. Francis County Two-Year Average (2012 and 2013)		
Variety	**Lint Yield**	**Lint Percent**
Dyna-Gro 2570 B2RF	1157.2	36.1
Deltapine 0912 B2RF	1142.5	35.2
FiberMax 1944 GLB2	1129.3	34.0
Phytogen 499 WRF	1115.0	36.7
NexGen 1511 B2RF	1084.0	36.5
Grand Mean	**1125.6**	**35.7**

2013 Standardized Liberty Link Variety Performance Trials

In 2011, standardized on-farm Liberty Link variety performance trials were initiated to evaluate current and new cotton cultivars that were tolerant to Liberty herbicide. In 2012, cultivars were added that were tolerant to glyphosate and Liberty. These varieties were added to compare the yields with varieties that were only tolerant to Liberty. These trials were conducted across four counties designated in the figure at left. The locations include Clay, Lee, Mississippi and St. Francis counties. The standard varieties are listed in Table 4. Other varieties were added at some locations by cooperator request. The Liberty Link performance trials were managed in accordance with labeled instructions as well as University of Arkansas Division of Agriculture recommendations. Residual herbicides were used at all locations, and up to three applications of 29 fl oz/A of Liberty were made over the top of all trials. The following yield tables represent how each variety performed under multiple Liberty applications.



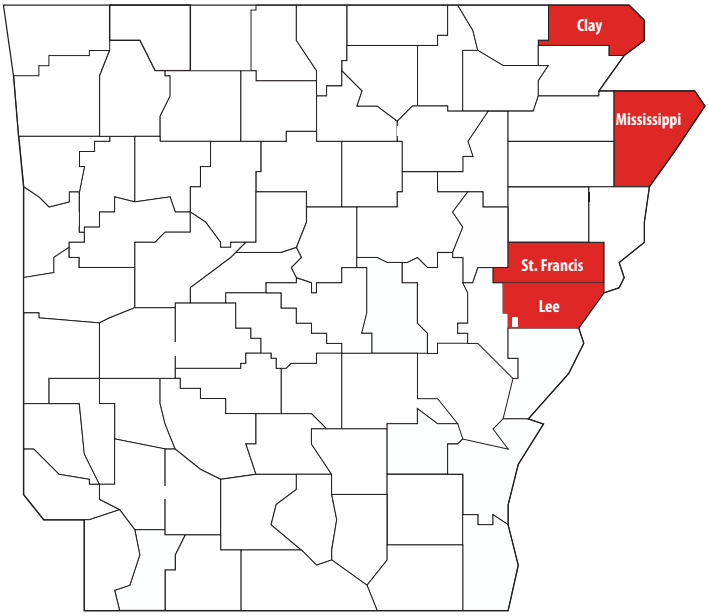
Arkansas Standardized Liberty Link Locations

Table 4. 2013 Standard Liberty Link Performance Trial Entries

Slot #	Slot Criteria
1	Stoneville 4946GLB2
2	Fibermax 1944GLB2
3	Stoneville 4747GLB2
4	Phytogen 499 WRF
5	Stoneville 6448GLB2

[1] GLB2= Glytol Liberty Link Bollgard 2
[2] WideStrike Roundup Flex

2013 Liberty Link – All Locations

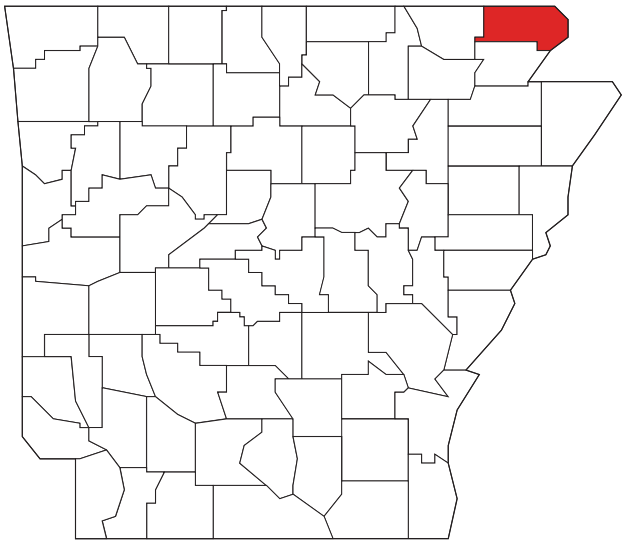


Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity
Stoneville 4946 GLB2	1339.40	38.34	4.48	37.25	30.95	81.80
Stoneville 4747GLB2*	1179.04	37.04	4.30	37.00	30.63	80.85
FiberMax 1944 GLB2	1122.08	35.40	4.15	37.25	32.80	82.28
Phytogen 499 WRF	1077.34	38.58	4.18	37.30	33.13	82.53
Stoneville 6448 GLB2	902.28	35.24	4.13	36.75	29.88	80.90
LSD	**192.4**	**1.80**	**0.27**	**1.17**	**2.13**	**1.91**
CV	**14.37**	**4.10**	**4.27**	**2.09**	**4.82**	**1.55**
Grand Mean	**1124.03**	**36.87**	**4.25**	**37.10**	**31.50**	**81.67**

*Not significantly different from the highest yielding variety in the trial.

Liberty Link – Clay County
Rector, Arkansas

Soil Series – Beulah Fine Sandy Loam
Cooperator – Jody Simmons
Row Width – 38"
Irrigation – Furrow

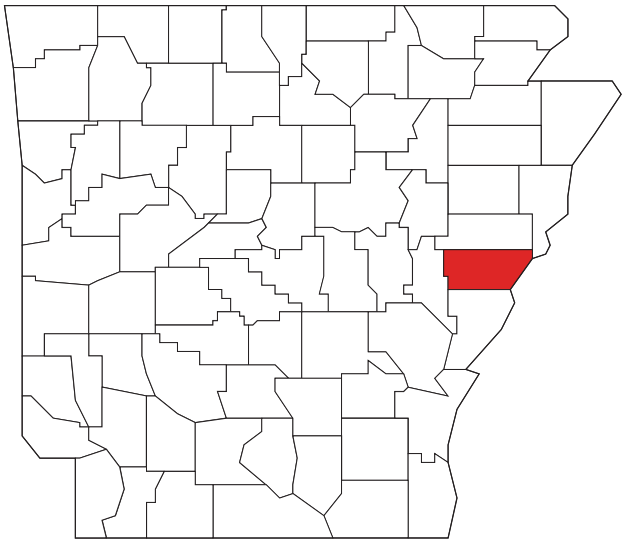


Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Stoneville 4946 GLB2	1449.70	39.39	4.8	36	30.0	82.2	776.31
Stoneville 4747GLB2	1255.48	36.20	4.3	37	29.4	79.3	641.55
FiberMax 1944 GLB2	1223.88	36.94	4.0	38	35.6	82.1	660.28
Stoneville 5445 LLB2	1186.90	36.18	4.3	37	33.4	81.3	613.03
Stoneville 4145 LLB2	1177.39	35.41	4.7	36	29.7	81.4	629.31
Phytogen 499 WRF	1176.81	37.88	4.2	37	34.0	83.0	670.19
Stoneville 6448 GLB2	900.64	35.42	4.1	37	30.0	81.0	483.64
LSD	**161.67**	.	.	.	.	.	.
CV	**5.52**	.	.	.	.	.	.
Grand Mean	**1235.89**	**36.80**	**4.34**	**36.86**	**31.73**	**81.47**	**639.19**

Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Liberty Link – Lee County
Marianna, Arkansas

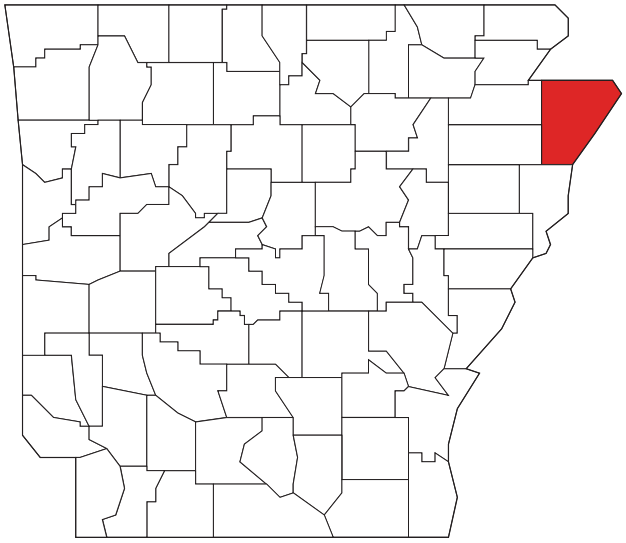
Soil Series – Calloway Silt Loam
Cooperator – Cotton Branch Experiment Station
Row Width – 38"
Irrigation – Furrow



Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Stoneville 4946 GLB2	1449.70	39.39	4.8	36	30.0	82.2	776.31
Stoneville 4747GLB2	1255.48	36.20	4.3	37	29.4	79.3	641.55
FiberMax 1944 GLB2	1223.88	36.94	4.0	38	35.6	82.1	660.28
Stoneville 5445 LLB2	1186.90	36.18	4.3	37	33.4	81.3	613.03
Stoneville 4145 LLB2	1177.39	35.41	4.7	36	29.7	81.4	629.31
Phytogen 499 WRF	1176.81	37.88	4.2	37	34.0	83.0	670.19
Stoneville 6448 GLB2	900.64	35.42	4.1	37	30.0	81.0	483.64
LSD	**161.67**	.	.	.	.	.	.
CV	**5.52**	.	.	.	.	.	.
Grand Mean	**1235.89**	**36.80**	**4.34**	**36.86**	**31.73**	**81.47**	**639.19**

Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Liberty Link – Mississippi County
Leachville, Arkansas



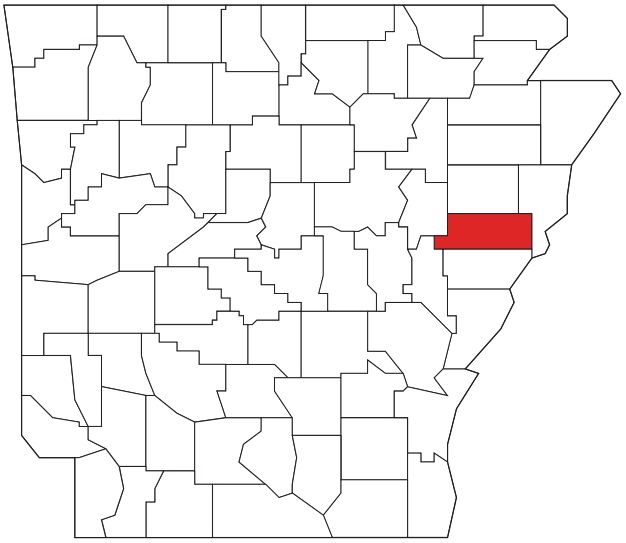
Soil Series – Routon-Dundee-Crevasse
Cooperator – Greg Lyerly
Row Width – 38"
Irrigation – Furrow

Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Stoneville 4946 GLB2	1260.11	36.86	4.5	38	29.7	81.1	715.74
Stoneville 4747GLB2	1213.08	37.70	4.5	37	31.7	83.1	628.38
FiberMax 1944 GLB2	1076.52	36.10	4.5	37	32.9	83.3	609.31
Phytogen 499 WRF	1055.48	39.63	4.2	38	31.2	80.9	574.71
Stoneville 6448 GLB2	1052.13	35.67	4.2	38	31.6	83.3	568.15
Phytogen 339 WRF	1015.02	38.97	4.2	36	26.3	79.1	546.08
LSD	.	.	.	.	.	.	.
CV	.	.	.	.	.	.	.
Grand Mean	**1110.39**	**37.49**	**4.35**	**37.33**	**30.57**	**81.80**	**607.06**

Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

Liberty Link – St. Francis County
Forrest City, Arkansas

Soil Series – Loring Silt Loam
Cooperator – Joe Whittenton
Row Width – 38"
Irrigation – Furrow



Variety	Lint Yield	Lint Percent	Mic	Staple	Strength	Uniformity	Value
Stoneville 4747GLB2	1354.22	35.92	4.1	37	31.9	80.4	729.25
Stoneville 4946 GLB2	1352.98	35.64	4.2	37	32.3	82.7	729.93
Phytogen 339 WRF	1327.89	35.39	4.0	37	32.2	82.7	688.51
FiberMax 1944 GLB2	1260.83	34.00	3.9	38	32.5	81.7	679.59
Phytogen 499 WRF	1093.15	36.76	4.1	37	34.0	82.7	589.75
Stoneville 6448 GLB2	1026.24	33.23	4.1	36	29.0	80.0	563.92
LSD	.	.	.	.	.	.	.
CV	.	.	.	.	.	.	.
Grand Mean	**1235.89**	**35.16**	**4.07**	**37.00**	**31.98**	**81.70**	**663.49**

Value is represented in dollars per acre according to loan value. Although color and leaf matter are not listed, they are used to determine value.

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RESEARCH & EXTENSION
University of Arkansas System

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